PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
BRUNO J. EVANS
PRADIP MITRA

Serial No.: 10/603,707

Filed: 6/25/2003

For: MULTI-SPECTRAL LADAR

Group Art Unit: 3662

Examiner: BRIAN K. ANDREA

Atty. Dkt. No.: 2063.003100/JAP

DECLARATION OF BRUNO J. EVANS UNDER 37 C.F.R. § 1.132

CERTIFICATE OF MAILING (37 C.F.R. § 1.8)

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington D.C., 20231, on the date below.

October 8, 2004 by Suzanne Stephens

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

I, BRUNO J. EVANS, the undersigned declare that:

1. I am a named inventor in the above-captioned application. I am also a named inventor in U.S. Letters Patent 6,323,941 ("Evans *et al.*").

2. In Evans *et al.*, the unit cell performs only one function at a time. The charge wells (*i.e.*, the capacitors) can either sample the active return in time, or integrate the passive energy. The unit cell cannot do both simultaneously. The unit cell must either sample in time or integrate. Thus, the two different wavelengths of radiation cannot be detected in parallel, and must be detected sequentially. For example, for a few milliseconds the apparatus collects a passive image, and then for a few milliseconds the apparatus collects an active image. The process typically iterates. But the active and passive detections cannot be done at the same time because a single unit cell and detector is used for both.

3. In the above-captioned application, the focal plane array includes a plurality of columns. Each column (or set of columns) is set up to detect different wavelengths. Those wavelengths could be all passive, some passive and some active, or all active. With the beam splitter (diffraction grating), different wavelengths are directed to different columns. If a column is performing active imaging, the charge wells (*i.e.*, the capacitors) sample the return in time, *e.g.*, by switching from charge well to charge well at some sampling rate, 500 MHz, for example. If a column is performing passive imaging, the charge wells are integrating over time, typically 1-3 msecs. Thus, the detection of the different wavelengths radiation of radiation occurs in parallel.

4. In summary, the apparatus of the above-captioned application detects in parallel because each column sees a different wavelength (be it active or passive) and collects the data at the same time because it uses different detectors and unit cells (*i.e.*, the readout behind the detector). The apparatus of Evans *et al.* can only do one or the other. The detection of the two different wavelengths is done sequentially.

5. I hereby declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

October 6, 2004
Date

BRUNO J. EVANS